WHAT IS CLAIMED IS:

1. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

all the bubble producing means in said liquid cell are supplied with energy, and by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, a flying characteristic of the liquid ejected from said nozzle is controlled based on the difference.

2. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

all the bubble producing means in said liquid cell are supplied with energy, and by performing energy supply so that a difference is set between the time required for generating a bubble in the liquid by at least one of said plurality of bubble producing means, and the time required for generating a bubble in the liquid by another one of said plurality of bubble producing means, a flying characteristic of the liquid ejected from said nozzle is controlled based on the difference.

3. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a bubble producing region for producing a bubble in the liquid in said liquid cell in response to supply of energy, said bubble producing region forming at least part of one internal wall of said liquid cell; and

a nozzle for ejecting the liquid in said liquid cell by the bubble produced by said bubble producing region,

wherein an energy distribution in said bubble producing region which is obtained when the energy is supplied to said

bubble producing region has a difference, and based on the difference, a flying characteristic of the liquid ejected from said nozzle is controlled.

4. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

said plurality of bubble producing means comprise:

main operation-control means for ejecting liquid from said nozzle by supplying the energy to all the bubble producing means; and

sub operation-control means which supplies the energy to all the bubble producing means and which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, uses said nozzle to perform ejection based on the difference of liquid having a

flying characteristic different from that of the liquid ejected by said main operation-control means.

5. A liquid ejecting device according to claim 4, wherein, when a flying direction in which the liquid ejected by the main operation-control means flies is off a target direction, said sub operation-control means controls the flying characteristic of the liquid so that the flying direction approaches the target direction.

6. A liquid ejecting device according to claim 4, wherein, when a delivery position to which the liquid ejected by the main operation-control means is delivered is off a target position, said sub operation-control means controls the flying characteristic of the liquid so that the delivery position approaches the target position.

7. A liquid ejecting device according to claim 4, wherein said sub operation-control means controls the flying characteristic of the liquid so that the liquid is delivered to at least one position which is different from a position to which the liquid ejected by the main operation-control means is delivered.

8. A liquid ejecting device according to claim 4,

wherein, by controlling the flying characteristic of the liquid so that the liquid is delivered to at least one position which is different from a delivery position to which the liquid ejected by the main operation-control means is delivered, said sub operation-control means controls the number of pixels formed on a recording medium by the delivery of the liquid ~~to increase than the number of pixels formed only by said main operation-control means~~.

9. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

said plurality of bubble producing means comprise:

main operation-control means for ejecting liquid from said nozzle by supplying the energy to all the bubble producing means; and

sub operation-control means which supplies the energy to all the bubble producing means and which, by

setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy by said main operation-control means, uses said nozzle to perform ejection based on the difference ~~of liquid having a flying characteristic different from that of the~~ liquid ejected by said main operation-control means.

10. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a bubble producing region for producing a bubble in the liquid in said liquid cell in response to supply of energy, said bubble producing region forming at least part of one internal wall of said liquid cell;

a nozzle for ejecting the liquid in said liquid cell by the bubble produced by said bubble producing region;

main operation-control means which ejects liquid from said nozzle by supplying energy to said bubble producing region; and

sub operation-control means which, by setting a difference in an energy distribution in said bubble producing region which is obtained when the energy is supplied to said bubble producing region, uses said nozzle to perform ejection based on the difference of liquid having a flying characteristic different from that of the liquid

ejected by said main operation-control means.

11. A liquid ejecting method which, by using a plurality of bubble producing means in a liquid cell to produce bubbles in liquid contained in the liquid cell by supplying energy to said plurality of bubble producing means, ejects the liquid from a nozzle by using the produced bubbles,

wherein the liquid ejected from said nozzle is controlled to have at least two different characteristics by using:

a main operation-control step in which the liquid is ejected from said nozzle by supplying uniform energy to all the bubble producing means in said liquid cell; and

a sub operation-control step in which energy is supplied to all the bubble producing means in said liquid cell and in which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, the liquid ejected from said nozzle is controlled based on the difference to have a flying characteristic different from that of the liquid ejected in said main operation-control step.

12. A liquid ejecting method which, by using a plurality of bubble producing means in a liquid cell to produce bubbles in liquid contained in the liquid cell by supplying energy to said plurality of bubble producing means, ejects the liquid from a nozzle by using the produced bubbles,

wherein the liquid ejected from said nozzle is controlled to have at least two different characteristics by using:

a main operation-control step which ejects the liquid from said nozzle by supplying energy to all the bubble producing means in said liquid cell; and

a sub operation-control step which supplies the energy to all the bubble producing means and which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy in said main operation-control step, uses said nozzle to perform ejection based on the difference of liquid having a flying characteristic different from that of the liquid ejected in said main operation-control step.

13. A liquid ejecting method which, by using a bubble producing region forming at least part of one internal wall of a liquid cell to produce a bubble in liquid contained in said liquid cell, ejects the liquid from a nozzle by using

the produced bubble,

wherein the liquid ejected from said nozzle is controlled to have at least two flying characteristics by using:

a main operation-control step in which, by supplying energy so that an energy distribution in said bubble producing region is uniform, liquid is ejected from said nozzle; and

a sub operation-control step in which, by setting a difference in the energy distribution in said bubble producing region when energy is supplied to said bubble producing region, a flying characteristic of the liquid ejected from said nozzle is controlled based on the difference to differ from that of the liquid ejected in said main operation-control step.

14. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed

in said liquid cell; and

all the bubble producing means in said liquid cell are supplied with energy, and by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, the liquid ejected from said nozzle is controlled based on the difference to be delivered to at least two different positions.

15. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

all the bubble producing means in said liquid cell are supplied with energy, and by performing energy supply so that a difference is set between the time required for generating a bubble in the liquid by at least one of said plurality of bubble producing means, and the time required

for generating a bubble in the liquid by another one of said plurality of bubble producing means, the liquid ejected from said nozzle is controlled based on the difference to be delivered to at least two different positions.

16. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a bubble producing region for producing a bubble in the liquid in said liquid cell in response to supply of energy, said bubble producing region forming at least part of one internal wall of said liquid cell; and

a nozzle for ejecting the liquid in said liquid cell by using the bubble produced by said bubble producing region,

wherein an energy distribution in said bubble producing region which is obtained when the energy is supplied to said bubble producing region has a difference, and based on the difference, the liquid ejected from said nozzle is controlled to be delivered to at least two different positions.

17. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

said plurality of bubble producing means comprise:

main operation-control means for ejecting liquid from said nozzle by supplying energy to all the bubble producing means; and

sub operation-control means which supplies the energy to all the bubble producing means and which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, performs control based on the difference of the liquid ejected from said nozzle to be delivered to a position different from a position to which the liquid ejected by said main operation-control means is delivered.

18. A liquid ejecting device according to claim 17, wherein, when a delivery position to which the liquid ejected by the main operation-control means is delivered is off a target position, said sub operation-control means controls the delivery position to approach said target

position.

19. A liquid ejecting device according to claim 17, wherein, when a delivery position on a recording medium in which the liquid ejected by the main operation-control means is delivered is off a target position, said sub operation-control means controls the delivery position to approach said target position.

20. A liquid ejecting device according to claim 17, wherein said sub operation-control means controls a position of liquid delivered thereby so that the liquid is delivered to at least one position which is different from the position to which the liquid ejected by the main operation-control means is delivered.

21. A liquid ejecting device according to claim 17, wherein, by controlling a position of delivered liquid by said main operation-control means so that the liquid is delivered to at least one position which is different from the position on a recording medium to which the liquid ejected by the main operation-control means is delivered, said sub operation-control means controls the number of pixels formed on said recording medium by the delivery of the liquid to increase than the number of pixels formed only

by said main operation-control means.

22. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a plurality of bubble producing means for producing bubbles in the liquid in said liquid cell in response to supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the bubble producing means,

wherein:

said plurality of bubble producing means are disposed in said liquid cell; and

said plurality of bubble producing means comprise:

main operation-control means for ejecting liquid from said nozzle by supplying the energy to all the bubble producing means; and

sub operation-control means which supplies energy to all the bubble producing means and which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy by said main operation-control means, controls the liquid ejected from said nozzle to be delivered to a position different from a position to which liquid ejected by said main operation-control means is delivered.

23. A liquid ejecting device comprising:

a liquid cell for containing liquid;

a bubble producing region for producing a bubble in the liquid in said liquid cell in response to supply of energy, said bubble producing region forming at least part of one internal wall of said liquid cell;

a nozzle for ejecting the liquid in said liquid cell by using the bubble produced by said bubble producing region;

main operation-control means which ejects liquid from said nozzle by supplying energy to said bubble producing region; and

sub operation-control means which, by setting a difference in an energy distribution in said bubble producing region which is obtained when the energy is supplied to said bubble producing region, controls the liquid ejected from said nozzle to be delivered to a position different from a position to which the liquid ejected by said main operation-control means is delivered.

24. A liquid ejecting device according to one of claims 14 to 17, and claims 22 and 23, wherein an almost constant distance is maintained between the tip of said nozzle and a surface onto which the liquid is delivered.

25. A liquid ejecting device according to one of

claims 14 to 17, and claims 22 and 23, wherein the distance between the tip of said nozzle and a surface onto which the liquid is delivered is maintained at an almost constant value between 0.5 millimeters and 5 millimeters.

26. A liquid ejecting method which, by using a plurality of bubble producing means in a liquid cell to produce bubbles in liquid contained in said liquid cell by supplying energy to said plurality of bubble producing means, ejects the liquid from a nozzle by using the produced bubbles,

wherein the liquid ejected from said nozzle is controlled to be delivered to at least two different positions by using:

a main operation-control step in which the liquid is ejected from said nozzle by supplying uniform energy to all the bubble producing means in said liquid cell; and

a sub operation-control step in which all the bubble producing means in said liquid cell are supplied with energy and in which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying energy to another one of said plurality of bubble producing means, the liquid ejected from said nozzle is controlled based on the difference to be delivered to a position different from a

position to which the liquid ejected by said main operation-control step is delivered.

27. A liquid ejecting method which, by using a plurality of bubble producing means in a liquid cell to produce bubbles in liquid contained in said liquid cell by supplying energy to said plurality of bubble producing means, ejects the liquid from a nozzle by using the produced bubbles,

wherein the liquid ejected from said nozzle is controlled to be delivered to at least two different positions by using:

a main operation-control step in which the liquid is ejected from said nozzle by supplying uniform energy to all the bubble producing means in said liquid cell; and

a sub operation-control step in which all the bubble producing means in said liquid cell are supplied with energy and in which, by setting a difference between a manner of supplying energy to at least one of said plurality of bubble producing means and a manner of supplying the energy in said main operation-control step, the liquid ejected from said nozzle is controlled based on the difference to be delivered to a position different from a position to which the liquid ejected in said main operation-control step is delivered.

28. A liquid ejecting method for ejecting liquid in a liquid cell from a nozzle by using a bubble produced in the liquid by supplying energy to a bubble producing region in said liquid cell, said bubble producing region forming at least part of one internal wall of said liquid cell,

wherein the liquid ejected from said nozzle is controlled to be delivered to at least two different positions by using:

a main operation-control step in which, by supplying the energy to said bubble producing region so that energy distribution in said bubble producing region is uniform, the liquid is ejected from said nozzle; and

a sub operation-control step in which, by setting an energy distribution in said bubble producing which is obtained when the energy is supplied to said bubble producing region to have a difference, the liquid ejected from said nozzle is controlled to be delivered to a position different from a position to which the liquid ejected in said main operation-control step is delivered.

29. A liquid ejecting method according to one of claims 26 to 28, wherein an almost constant distance is maintained between the tip of said nozzle and a surface onto which the liquid is delivered.

30. A liquid ejecting method according to one of claims 26 to 28, wherein the distance between the tip of said nozzle and a surface onto which the liquid is delivered is maintained at an almost constant value between 0.5 millimeters and 5 millimeters.

31. A liquid ejecting device having heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid ejecting portions each comprising:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the heating elements,

wherein:

said plurality of heating elements are arranged in said predetermined direction in said liquid cell; and

all the heating elements in said liquid cell are supplied with energy and by setting a difference between a manner of supplying energy to at least one of the heating elements and a manner of supplying energy to another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

32. A liquid ejecting device having heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid ejecting portions each comprising:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the heating elements,

wherein:

said plurality of heating elements are arranged in said predetermined direction in said liquid cell; and

all the heating elements in said liquid cell are supplied with energy, and by performing energy supply so that a difference is set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

33. A liquid ejecting device according to one of claims 31 and 32, wherein, among the heating elements in said liquid cell, at least one heating element and at least

one other heating element are simultaneously supplied with different amounts of energy.

34. A liquid ejecting device according to one of claims 31 and 32,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means for controlling the heat values of said two heating resistors is connected to a path for connecting said two heating resistors, and by setting a current flowing in one heating element and a current flowing in the other heating element to differ, said control means controls said one heating element and the other heating element to have a difference in heat value.

35. A liquid ejecting device according to one of claims 31 and 32,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means including a switching element for controlling the heat values of said two heating resistors is

connected to a path for connecting said two heating resistors, and by setting a current flowing in one heating element and a current flowing in the other heating element to be equal or different, the operation of said switching element controls the heat values of one heating resistor and the other heating resistor.

36. A liquid ejecting device according to one of claims 31 and 32, wherein equal or almost equal amounts of energy are supplied to at least one heating element and at least one other heating element among the heating elements in said liquid cell, with a difference set in supplying the energy.

37. A liquid ejecting device according to claim 31, wherein:

a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell have a plurality of differences; and

by storing data on the differences for the liquid ejecting portions, the supply of the energy to the heating elements is controlled based on the stored data.

38. A liquid ejecting device according to claim 31,

wherein:

a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell is set to have a plurality of differences; and

for correcting positional shifting of liquid delivered by the liquid ejecting portions when the liquid is ejected onto a liquid-ejected surface, by storing data on the differences for the liquid ejecting portions, the supply of the energy to the heating elements is controlled based on the stored data.

39. A liquid ejecting device according to claim 31, wherein:

a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell is set to have a plurality of differences; and

for correcting a position of delivered liquid which is unique to each of the heads when liquid is ejected onto a liquid-ejected surface, by storing data on the differences for the heads, the supply of the energy to the heating elements is controlled based on the stored data.

40. A liquid ejecting device according to claim 31,

wherein:

a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell is set to have a plurality of differences; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is determined for each of lines for liquid ejection, and the energy to the heating elements is controlled to correspond to the determined correction value.

41. A liquid ejecting device according to claim 31, wherein:

a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell is set to have a plurality of differences; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is randomly determined, and the energy to the heating elements is controlled to correspond to the determined correction value.

42. A liquid ejecting device according to claim 32,

wherein:

the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements have a plurality of differences; and

for correcting positional shifting of delivered liquid by the liquid ejecting portions when the liquid is ejected onto a target, by storing data on the differences for the liquid ejecting portions, the energy to the heating elements is controlled based on the stored data.

43. A liquid ejecting device according to claim 32, wherein:

the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements have a plurality of differences; and

for correcting a position of delivered liquid which is unique to each of the heads when liquid is ejected onto a target, by storing data on the differences for the heads, the energy to the heating elements is controlled based on the stored data.

44. A liquid ejecting device according to claim 32, wherein:

the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements have a plurality of differences; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is determined for each of lines for liquid ejection, and the energy to the heating elements is controlled to correspond to the determined correction value.

45. A liquid ejecting device according to claim 32, wherein:

the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements have a plurality of differences; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is randomly determined, and the energy to the heating elements is controlled to

correspond to the determined correction value.

46. A liquid ejecting device having heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid ejecting portions each comprising:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the heating elements,

wherein:

said plurality of heating elements are arranged in said predetermined direction in said liquid cell; and

for each of the heads, energy is supplied to all the heating elements in said liquid cell, and by setting a difference between a manner of supplying energy to at least one of the heating elements and a manner of supplying energy to another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

47. A liquid ejecting device having heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid

ejecting portions each comprising:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the heating elements,

wherein:

said plurality of heating elements are arranged in said predetermined direction in said liquid cell; and

for each of the heads, energy is supplied to all the heating elements in said liquid cell, and by performing energy supply so that a difference is set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

48. A liquid ejecting device according to one of claims 46 and 47, wherein, for each of the heads, at least one of the heating elements in said liquid cell and at least one other heating element are simultaneously supplied with different amounts of energy.

49. A liquid ejecting device according to one of claims 46 and 47,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means for controlling the heat values of said two heating resistors is connected to a path for connecting said two heating resistors, and by setting a current flowing in one heating element and a current flowing in the other heating element to differ, said control means controls, for each of the heads, said one heating element and the other heating element to have a difference in heat value.

50. A liquid ejecting device according to one of claims 46 and 47,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means including a switching element for controlling the heat values of said two heating resistors is connected to a path for connecting said two heating resistors, and by setting a current flowing in one heating element and a current flowing in the other heating element

to be equal or different, the operation of the switching element controls, for each of the heads, the heat values of said one heating resistor and the other heating resistor.

51. A liquid ejecting device according to one of claims 46 and 47, wherein, for each of the heads, equal or almost equal amounts of energy are supplied to at least one heating element and at least one other heating element among the heating elements in said liquid cell, with a difference set in supplying the energy.

52. A liquid ejecting device according to claim 46, wherein:

for each of the heads, a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell have a plurality of differences; and

by storing data on the differences for the liquid ejecting portions, the supply of the energy to the heating elements is controlled based on the stored data.

53. A liquid ejecting device according to claim 46, wherein:

for each of the heads, a manner of supplying energy to at least one heating element and at least one other heating

element among the heating elements in said liquid cell is set to have a plurality of differences; and

for correcting positional shifting of liquid delivered by one liquid ejecting portion between two heads when the liquid is ejected onto a target, by storing data on the differences for the heads, the supply of the energy to the heating elements is controlled based on the stored data.

54. A liquid ejecting device according to claim 47, wherein:

the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements have a plurality of differences for each of the heads; and

for correcting positional shifting of delivered liquid by one liquid ejecting portion between two heads when the liquid is ejected onto a target, by storing data on the differences for the heads, the energy to the heating elements is controlled based on the stored data.

55. A liquid ejecting method using heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid ejecting portions each including:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy, the heating elements being arranged in said predetermined direction in said liquid cell; and

a nozzle for ejecting the liquid in said liquid cell by using the bubbles produced by the heating elements,

wherein all the heating elements in said liquid cell are supplied with energy, and by setting a difference between a manner of supplying energy to at least one of the heating elements and a manner of supplying energy to another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

56. A liquid ejecting method using heads each including a plurality of liquid ejecting portions arranged in parallel in a predetermined direction, the liquid ejecting portions each including:

a liquid cell for containing liquid;

a plurality of heating elements for producing bubbles in response to the supply of energy, the heating elements being arranged in said predetermined direction in said liquid cell; and

a nozzle for ejecting the liquid in said liquid cell by

using the bubbles produced by the heating elements,

wherein all the heating elements in said liquid cell are supplied with energy, and by performing energy supply so that a difference is set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements, a direction in which the liquid is ejected from said nozzle is controlled based on the difference.

57. A liquid ejecting method according to one of claims 55 and 56, wherein, among the heating elements in said liquid cell, at least one heating element and at least one other heating element are simultaneously supplied with different amounts of energy.

58. A liquid ejecting method according to one of claims 55 and 56,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means for controlling the heat values of said two heating resistors is connected to a path for connecting said two heating resistors, and by setting a current flowing

in one heating element and a current flowing in the other heating element to differ, said control means controls said one heating element and the other heating element have a difference in heat value.

59. A liquid ejecting method according to one of claims 55 and 56,

wherein:

the heating elements in said liquid cell are two heating resistors connected in series to each other which have equal resistances; and

control means including a switching element for controlling the heat values of said two heating resistors is connected to a path for connecting said two heating resistors, and by setting a current flowing in one heating element and a current flowing in the other heating element to be equal or different, the operation of the switching element controls the heat values of said one heating resistor and the other heating resistor.

60. A liquid ejecting method according to one of claims 55 and 56, wherein equal or almost equal amounts of energy are supplied to at least one heating element and at least one other heating element among the heating elements in said liquid cell, with a difference set in supplying the

energy.

61. A liquid ejecting method according to claim 55, wherein:

a plurality of differences are set in a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell; and

by storing data on the differences for the liquid ejecting portions, the supply of the energy to the heating elements is controlled based on the stored data.

62. A liquid ejecting method according to claim 55, wherein:

a plurality of differences are set in a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell; and

for correcting positional shifting of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target, by storing data on the differences for the liquid ejecting portions, the supply of the energy to the heating elements is controlled based on the stored data.

63. A liquid ejecting method according to claim 55, wherein:

a plurality of differences are set in a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell; and

for correcting a position of delivered liquid which is unique to each of the heads when liquid is ejected onto a target, by storing data on the differences for the heads, the supply of the energy to the heating elements is controlled based on the stored data.

64. A liquid ejecting method according to claim 55, wherein:

a plurality of differences are set in a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is determined for each of lines for liquid ejection, and the energy to the heating elements is controlled to correspond to the determined correction value.

65. A liquid ejecting method according to claim 55, wherein:

a plurality of differences are set in a manner of supplying energy to at least one heating element and at least one other heating element among the heating elements in said liquid cell; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is randomly determined, and the energy to the heating elements is controlled to correspond to the determined correction value.

66. A liquid ejecting method according to claim 56, wherein:

a plurality of differences are set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements; and

for correcting positional shifting of delivered liquid by the liquid ejecting portions when the liquid is ejected onto a target, by storing data on the differences for the liquid ejecting portions, the energy to the heating elements is controlled based on the stored data.

67. A liquid ejecting method according to claim 56, wherein:

a plurality of differences are set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements; and

for correcting a position of delivered liquid which is unique to each of the heads when liquid is ejected onto a target, by storing data on the differences for the heads, the energy to the heating elements is controlled based on the stored data.

68. A liquid ejecting method according to claim 56, wherein:

a plurality of differences are set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is determined for each of lines for liquid ejection, and the energy to the heating elements is controlled to correspond to the determined

correction value.

69. A liquid ejecting method according to claim 56, wherein:

a plurality of differences are set between the time required for generating a bubble in part of the liquid by at least one of the heating elements, and the time required for generating a bubble in another part of the liquid by another one of the heating elements; and

a correction value for correcting a position of liquid delivered by each of the liquid ejecting portions when the liquid is ejected onto a target is randomly determined, and the energy to the heating elements is controlled to correspond to the determined correction value.